6th-8th Grade Science

Horse Story

The Horses of Shackleford Banks

National Park Service
Cape Lookout National Seashore
Harkers Island, North Carolina

This set of curriculum materials is part of a series of guides developed by staff at Cape Lookout National Seashore and designed to connect classrooms with the seashore.

These materials are based on the Common Core and North Carolina Essential Standards. Descriptions of the education goals and objectives that can be completed using these materials are included for educators in other locations.

The pre-visit and post-visit activities were created to be used in conjunction with a class visit to the park or a Ranger visit to the classroom. Contact the park for more information on scheduling a Ranger program, at the park or in the classroom.

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Horse Lesson Outline

Purpose: This lesson would occur during a "Pre-Visit" by a Cape Lookout park ranger. The purpose is to educate students (and their teachers) about the horses on Shackleford banks. The lesson will take students through the decisions that Cape Lookout National Seashore had to make about the horses.

Grade Level: 6-8

NC Essential Standards Covered: 6.L.2.2, 6.L.2.3, 7.L.2.2, 7.L.2.3, 8.L.3.1, 8.L.4.2, 8.L.5.1

Objectives:

- Students will learn some background information about the horses (arrival and pre-park existence)
- Students will learn why and how decisions were made regarding the horses and what consequences could have been should they have neglected to make those choices.
- Students will build a connection to Shackleford banks and the horses before a field trip to the island to visit the horses.

Materials: TBD

Time Necessary: 1-2 Class Periods (Based on 45 minutes/class)

Procedure:

1. Students will take a pre assessment on the horses of Shackleford banks.
2. The Ranger will start the lesson by giving students a quick history of how the horses arrived at Shackleford banks and what their lives were like leading up to the park becoming involved. (Assuming a ranger has been requested, otherwise this may be the teacher)
3. Students will break up into 4-5 main groups (ideally 4-6 students per group).
4. Each group will be given a slip containing the beginning of the story. Students will read through the passage and face a decision in the end of the passage. Students will work with their group to decide what decision to make.
5. Once students have made a decision they will receive another passage based on their choice. The passage may contain a task to complete or a continuation of the story based on their choice. If there is a task to complete the students must complete the task before receiving their next passage.
6. Students who choose a passage that leads to a negative outcome may be told to go back and make a new decision.
7. Once students complete the story choosing all of the correct paths they will evaluate what they have learned by once again retaking the assessment that was given at the beginning of the lesson.

Assessments:

- Students will take a pre assessment and post assessment using the same questions to evaluate how much they have gained from the lesson
- Students will fill out a post lesson form where they will describe what they would like to know about the horses on their trip to the island and what they expect to see. This will help personalize the trip for the students when they do arrive.

Horse Play

For as long as you have lived there have been horses on Shackleford Banks. In fact, one can go back at least 350 years and still find wild horses in the area. In the past people who have lived on the Shackleford and Core Banks got along quite well with the horses. Some people claimed horses as their own, and some even had other livestock like sheep, cows, goats, and hogs. All of these animals roamed free on Core Banks and Shackleford Banks. In 1933 a large hurricane made landfall near Cape Lookout, causing what is now known as the Barden Inlet to form between Shackleford Banks and the Core Banks.

By the 1950s many wild horses had been removed from the Core Banks as well as the rest of the Outer Banks. By 1966, President Johnson had signed a law authorizing Cape Lookout National Seashore. This designated the entire park to be preserved in its wild state and not developed for tourism. In order to keep the area natural, all livestock animals like sheep, goats, cattle and horses were to be removed.

It had been decided in 1980 that the horses would be left alone because they represented a certain history to the park and its residents. During a period of weeks in 1986 all goats, sheep, and cattle were removed from Shackleford. This was the first time in 300 years that the horses had Shackleford Banks all to themselves. A report from Princeton University explained what happens when wild horses are given an island all to themselves. The population of the horses more than doubled from about 100 horses in 1986 to about 200 horses in 1994.

Cape Lookout National Seashore, in charge of the horses and Shackleford banks, had to make a decision. Two hundred horses was considered too many horses for the 9 mile long Shackleford Banks Island. The National Park Service did its own study showing that with all of these new horses there was a significant negative effect to the parks natural resources and processes. Some people said that the horses had survived there before and would continue to survive without the park getting involved. Others said that it's time the park did something about the overpopulation of these horses.

Using the information you have and your ability to predict based on the information given, your group must make decisions about what the park should do next. Your first decision is simple:

Do you intervene or do you let the horses roam wild like they have done for centuries?

☐ Intervene! We have to stop these horses from overpopulating the island!

☐ Do Not Intervene! They have survived for CENTURIES they don't need us to help them survive now!

You Chose to Intervene

Your group has decided that the horses need your help to carry on now that they are overpopulated. You have realized that while the horses have survived for hundreds of years without our help, they have not been alone on the island and able to populate the island as much as they can now. Choosing to intervene was the first step, but now you must make decide how you will intervene.

Part I:

You have been given four pictures of horses. Color these pictures and make sure they look good as they will represent your herd. Once completed you must show your teacher that you are done and you may move on.

Part II:

The goal population of horses is 110-130. There are currently 200 horses on the island. There are a few options that your group has at this point:

A. Remove Some of the Horses: This option is quick. In order to help remove the pressure on the island immediately you can remove some of the horses so that those left on the island may have more food, water, space, and shelter. However, this option is disruptive to the horses on Shackleford Banks.

B. Remove All 200 of the Horses: Many researchers believe the horses shouldn't be on the island at all. It costs money to manage the horses and they aren't even natural to the island. Horses damage the natural resources and processes of the island which can cause problems for the park and its inland neighbors. However, choosing this option may not be as acceptable to people who enjoy seeing the horses on the island.

C. Use Contraception Only (Birth Control): This option does not disrupt the horses' lives very much. Giving contraception to all of the female horses on the island would slow the population increase within the next year and allow all the horses to remain on the island. Contraception of all of the female horses would take time and money to complete.

D. Combine Contraception and Removal: Removing some of the horses will help decrease the population immediately. Using contraception on some of the horses will slow down the population increase. This option is the quite disruptive to the horses on Shackleford Banks.

What type of intervention does your group choose?

☐ A. Remove Some of the Horses
☐ B. Remove All of the Horses
☐ C. Use Contraception Only
☐ D. Combine Contraception and Removal

You Chose Not to Intervene

Your group has decided that the park will not intervene with the horses. You believe that the horses have survived on Shackleford Banks for hundreds of years and should easily be able to do so themselves! In order to prove this you must show that there is enough food to keep the 200 horses healthy.

Your Task:
In the classroom you will see stickers of plant life placed randomly around the room. Your job is to find enough food for the horses to survive. Each of your colored horse represents 25% of the heard. You must get each colored horse 10 plant life stickers in order for those horses to survive. *BEFORE YOU START COLLECTING* the plants, here are some rules:

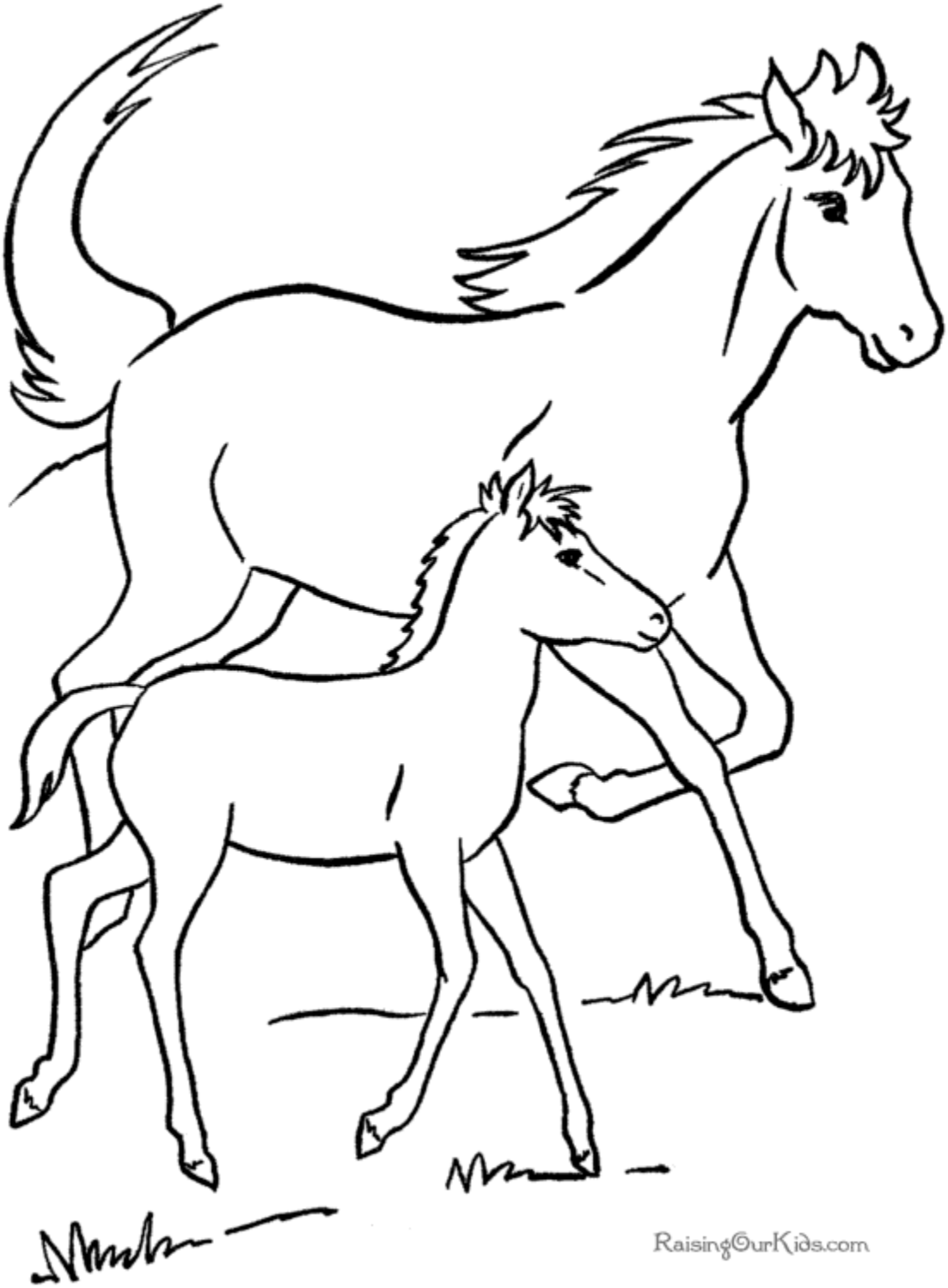
1. You may only collect one plant sample at a time. The sample must be placed on your horse before you may go get another. Horses only eat Sea Oats, Smooth Cordgrass, Saltmeadow Cordgrass, or Centipede Grass. Anything else is not edible!
2. You must go in order from horse 1 to horse 4. For example if you collect a plant and give it to horse 1, the next plant sample must go to horse 2, the next to horse 3, and so on.
3. Any arguing, cheating, running, or otherwise negative behavior during the plant collection will result in an immediate loss of all collected samples.
4. You MUST save 100% of the herd in order to claim that your choice not to intervene was successful!
5. Once you finish collecting the samples you must return them to the same location you found them or a similar location. DO NOT hide them, throw them out, or keep them from other students.

Were you successful in the survival of the herd without intervening?

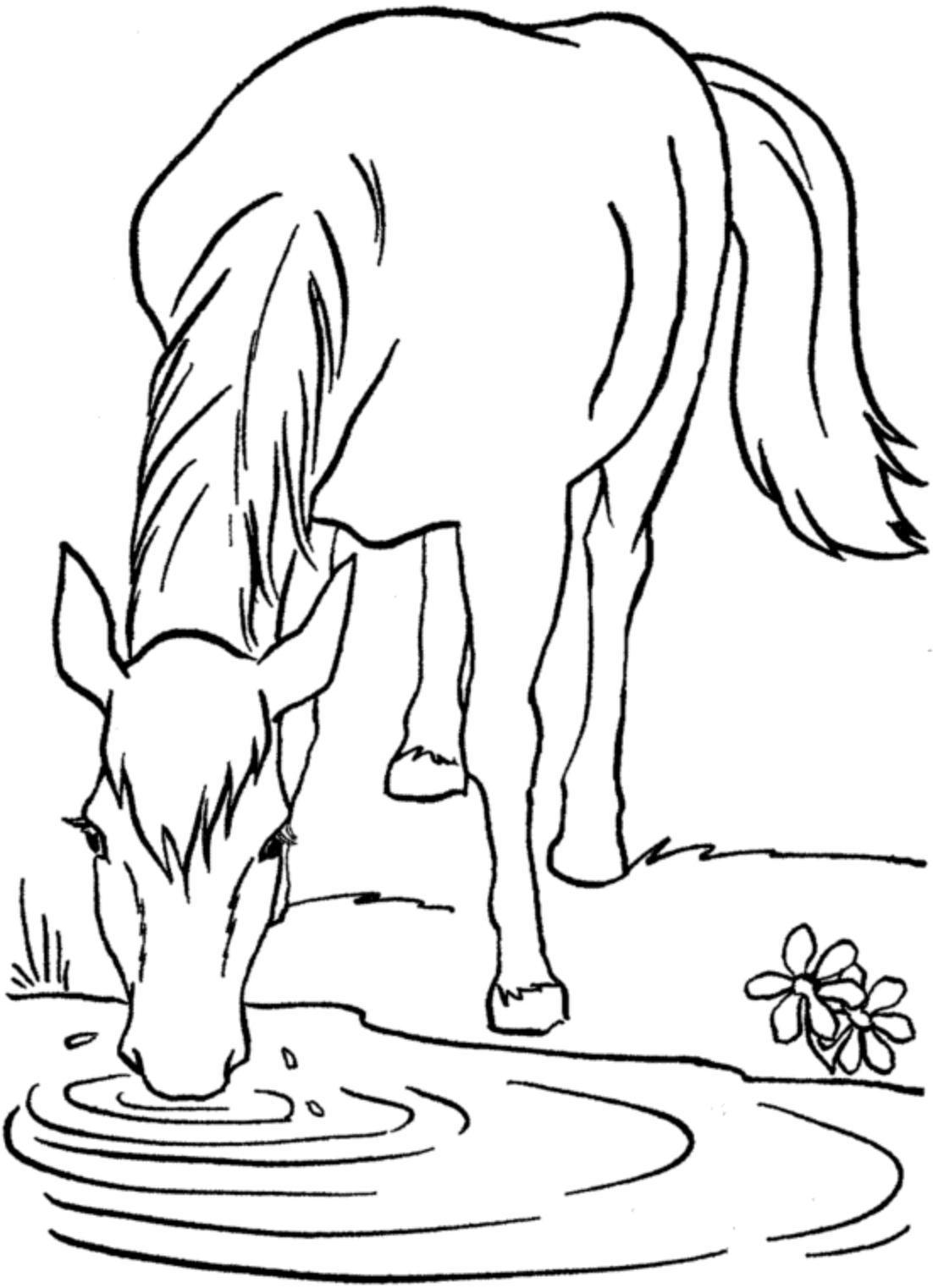
☐ Yes! Our herd was able to find enough food to survive without intervention from humans!

☐ No! We could not find enough food to maintain the amount of horses on the Island! Take us to the Intervention options!

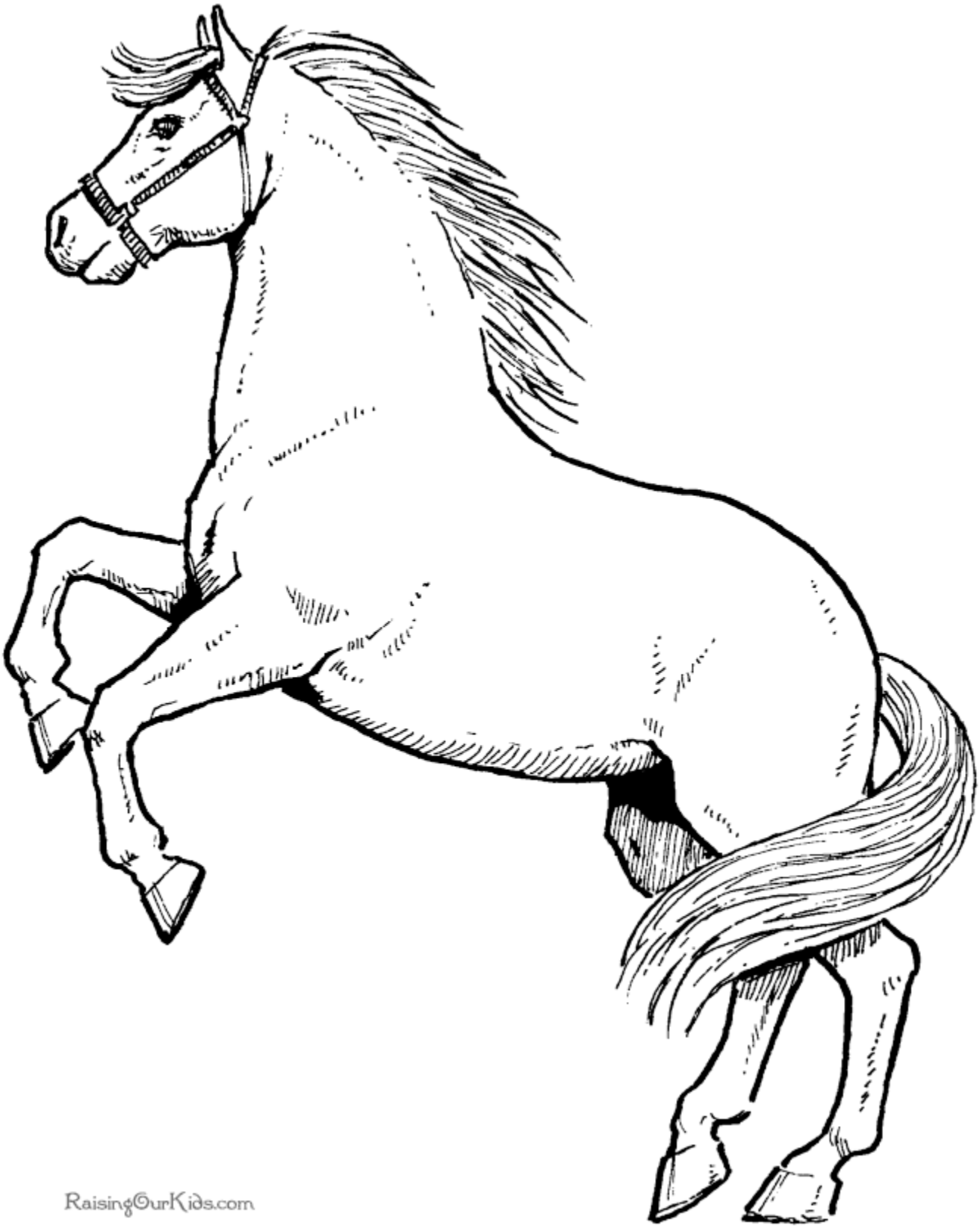
Horses 1



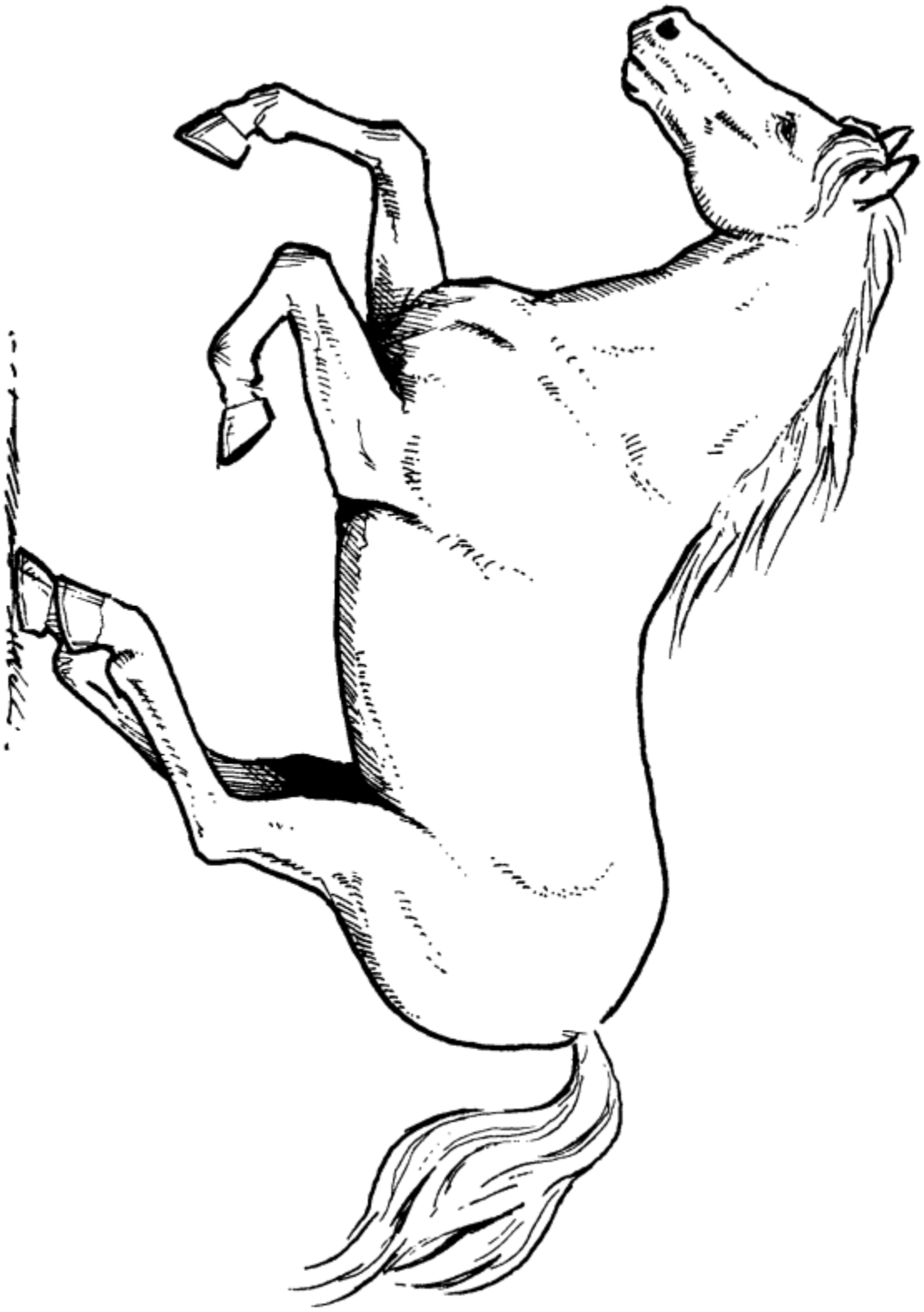
Horses 2



Horses 3



Horses 4



A. You Chose to Remove *Some* of the Horses

The idea makes sense. The problem we have to solve is that we have too many horses on the island. Wouldn't it make perfect sense to just take some of them off of the island and immediately lower that population number?

Your group will start with 200 horses and your goal is to get the island population down to between 110 and 130 horses. You may only remove 70-90 horses. As a group, choose how many horses you will remove now.

We will remove _____ horses lowering the Shackleford Banks population to _____ horses.

Your group must now use a die for the next task. In order for your solution to be the correct choice you must figure out what your population increase is for the next 20 years.

1. You will roll the die 20 times (Each roll represents one year of time. adding each number to your total number of horses.
2. Record each roll and new total in the data table below.
3. Create a Population vs Time graph in the graph below.
4. If your total number goes OVER 130 before 20 years then that means your plan is not financially responsible as the park would have to continue to remove horses from the island too often and would cause too much of a disruption to the horses who are supposed to be wild.

Years Passed	Number of New Horses	New Population Number
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
	Total Population after 20 Yrs	_____

Were you able to successfully keep your population number between 110-130 for 20 years?

☐ Yes!

☐ No! We need to choose a different method of intervention!

B. You Chose to Remove All of the Horses

You have chosen to remove all 200 of the horses from the island. Horses are not native to the island and thus could be considered an invasive species. Your decision will likely help vegetation and other natural island features maintain their presence. Your biggest hurdle in removing all of the horses will be to convince the public that it is a good idea. You will hold a "public forum" with your teacher. You will present your side to your teacher and your teacher will represent the locals and other members of the public who are opposed to removing the horses. Can you convince them of your views? Is this really the right idea?

Use the space below to plan out your points. Make sure you are clear and factual in your presentation.

Were you able to convince the public (your teacher) that removing all of the horses was a good idea?

☐ Yes!

☐ No! We have decided to keep the horses and need to choose another type of intervention!

C. You have Chosen to Use Contraception on the Horses

Contraception is a method of preventing the mares (female horses) from becoming pregnant. This method would involve going to the island with a dart gun that would shoot the contraceptive dart at the mare, and the dart would fall out on its own after the contraceptive has been delivered. This task proves to be more difficult than it sounds due to the fact that the mares will quickly recognize the dart shooters and try to get away making it difficult to administer the contraceptive without being a large disruption to the wild life.

Contraception of all mares is a hefty procedure and would require multiple dart shooters on the island to deliver the contraceptives to every mare. You will have to prove that you can deliver the contraceptives to every mare. Choose two dart shooters and two others who will help guide them.

Rules:

1. You MUST deliver the contraceptive to every mare! Any untreated mare is likely to give birth in the following spring. *You may attempt this task twice*.
2. You only have 7 darts. When you run out you cannot get any more. The park cannot afford to replenish your darts just because you keep missing!
3. The "Dart Shooter" will be blindfolded. They will take their sticky dart and attempt to stick it to the mare (The poster of mares on the wall) in the proper contraceptive zone.
4. The guides will help direct the shooter to the right spot through telling them where to turn and aim. Once the dart shooter gets to the line (tape on floor) however, the guides may no longer talk. You don't want to spook the horse!

How You Can Succeed:

- Give every horse the contraceptive in the correct area.

How You Can Fail:

- Fail to give any of the mares the contraceptive
- Give one mare more than one dose of the contraceptive
- Run out of darts before all mares are treated

Were You Successful in Providing Contraception to All Mares on the Island?

☐ Yes! We gave every mare contraception!

☐ No! We need to choose another type of intervention!

D. You Have Chosen to Use Contraception and Remove Some of the Horses

Removing some of the horses was only a temporary fix as the horses were able to replenish their numbers that you removed within 10 years. Contraception was a good idea as it would prevent further reproduction and thus stop the population from increasing. The problem with contraception alone was that it was not an immediate fix as the population remained over 200 horses and would likely take at least 20 years for those numbers to begin to drop.

What about a combination of removal of some horses and the use of contraception? The theory makes sense as it will lower the population immediately through removal, and stop the population from getting back to 200+ through contraception. In this method you will not have to give *all* of the mares contraception, but just enough to not allow the population to increase past your maximum number of horses you want on the island (130).

Removal:

Your group must now use a die for the next task. In order for your solution to be the correct choice you must figure out what your population increase is for the next 20 years. For this task you will begin with a population of 110 horses, assuming that you have removed about 90 from the island. *You may attempt this task twice.*

1. You will roll the die 6 times adding each number to your total number of horses.
2. Record each roll and new total in the data table. *You only need to roll for the years **NOT** in grey.*
3. Create a Population vs Time graph in the graph below.
4. If your total number goes OVER 130 before 20 years then that means your plan is not financially responsible as the park would have to continue to remove horses from the island too often and would cause too much of a disruption to the horses who are supposed to be wild.

Years Passed	Number of New Horses	New Population Number
1		
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	Total Population after 20 Yrs	_____

D. You Have Chosen to Use Contraception and Remove Some of the Horses

Contraception:

Rules:

1. You MUST deliver the contraceptive to **50%** of the mares! *You may attempt this task twice*.
2. You only have 7 darts. When you run out you cannot get any more. The park cannot afford to replenish your darts just because you keep missing!
3. The "Dart Shooter" will be blindfolded. They will take their sticky dart and attempt to stick it to the mare (The poster of mares on the wall) in the proper contraceptive zone.
4. The guides will help direct the shooter to the right spot through telling them where to turn and aim. Once the dart shooter gets to the line (tape on floor) the guides may no longer talk. You don't want to spook the horse!

How You Can Succeed:

- Give **50%** of mares the contraceptive in the correct area. This will prevent the horses from a population increase that is too large for the park to maintain through contraception!

How You Can Fail:

- Fail to give 50% of the mares the contraceptive
- Give one mare more than one dose of the contraceptive
- Run out of darts before 50% of mares are treated

Were you successful in using a combination of removal and contraception?

☐ Yes! Our population stayed below or at 130 after 20 years and we gave 50% of the mares contraception!

☐ No! We tried each task twice and still failed! We need to discuss with our teacher where we go from here!

Disease

Before you begin removing and using contraception on horses a biologist finds out that many of the horses on the island have a disease called Equine Infectious Anemia (EIA). This disease can be fatal for some horses while others will simply carry it with them for their entire lives and potentially spread it to other horses. Large biting flies with big mouth parts are the most likely method of transfer for this disease. Large flies will only spread the disease if the blood from the infected horse is not yet dried by the time that they bite the next horse.

The horses are to be considered wild animals. If the horses are indeed wild then one could argue that they should live and die as wild animals do without human interference. You have two choices in regard to how you move forward.

Respond to the Disease: You understand that the animals are wild but it is immoral to sit and wait for them to become sick and spread EIA across the island. If you can do something to help the animals then there is no reason not to. Plus, if horses got washed off the island to the mainland during a hurricane they could spread the disease to domestic horses.

Do Nothing: The animals were meant to live on the island as wild animals. If the animals cannot survive on the island then that is the course that nature will take. Many of the animals that have or will have EIA will live out their lives completely unaffected but simply as carriers of the disease. The island is an effective quarantine area because no domestic horses are allowed out there and the disease can't be spread by flies over the wide Back Sound. There is no need to step in.

What does your group decide to do about the Equine Infectious Anemia?

☐ Respond! We can't just sit back and let more horses contract the disease and let it spread!

☐ Do nothing! These are *wild* animals. We don't need to step in every time they have an issue.

You Chose Not to Respond to EIA

You have decided that the wild horses should be able to survive on their own without intervention by the park. You also know that the park is responsible for managing the horses and insuring their continuance on the island. EIA slowly spreads to other harems and as a result some horses die and others carry EIA for the rest of their lives. The Shackleford Banks horses are not healthy and the park needs to do something or else they won't have many horses left to manage.

Go back and this time choose to respond to EIA and help these horses be healthy!

You Chose to Respond to EIA

Your group has realized that the horses cannot go on slowly spreading EIA. In an attempt to create a healthy herd of horses on Shackleford Banks you decide to remove the 76 horses that are infected with EIA. This works out fine because you were planning on removing horses anyway. Your next issue is more difficult. What do you do with these 76 horses that are infected with EIA? Unfortunately, EIA is an incurable disease.

You have two options:

Quarantine: The horses cannot be placed with other horses because they may spread EIA to any uninfected horses they are placed with. These horses must be moved to a place where they can live out the rest of their lives away from healthy horses where they wont spread the disease. Moving the 76 horses to quarantine would let them live out their lives even though they carry EIA.

Euthanasia: It's just too many horses to try to quarantine. Trying to relocate and transport 76 horses is just too difficult and you see only one option. Euthanasia would end the lives of the sick horses but would protect other horses from getting the disease. However, horses are charismatic megafauna – very popular big animals that many people get very emotionally attached to. It will be a very unpopular decision to euthanize all these horses, some of whom look healthy.

What do you do with the 76 horses you have removed from Shackleford Banks with EIA?

☐ Quarantine- The horses should be relocated to live out the rest of their lives.

☐ Euthanasia- Relocating these horses would be too much and the goal is to keep the other horses healthy.

You Chose to Quarantine

It is the law that if a horse is infected with EIA it must either be quarantined or euthanized. Horses with EIA must be quarantined for life. Quarantined horses cannot be with other healthy horses or even within a certain distance of a healthy horse to make sure they don't spread EIA. Quarantining costs money to keep, clean, feed, and care for each horse. Sending 76 horses to quarantine would not be cheap and would require a large amount of land for them to live on without risking infecting other horses. Feeding, land, and overall maintenance costs about $3,000 per year. How much would it cost per year to quarantine 76 horses? **$_____**

After five years of quarantine how much would the park have spent on these quarantined horses? **$_____**

After a long search by the park and other groups run by the public that want to help the horses, you realize that this is not an actual possibility. The amount of land, money, and resources necessary to make quarantining 76 wild horses is something that cannot be done. Unfortunately, there is only one choice for the horses of Shackleford Banks that have been infected with EIA.

Go back and choose Euthanasia to remove EIA infection from Shackleford Banks.

You Chose Euthanasia

Although euthanasia is never an easy decision it is the only practical one in this case. It isn't possible to quarantine 76 horses with EIA while keeping them away from healthy animals and paying for their constant care. The search for land to move these horses to has come up flat, and moving the horses across the country would only risk further spreading EIA.

While it is sad to lose 76 Shackleford Banks horses, there is now a bright future for the horses that remain on the island. The remaining horses now have a manageable population number that can be monitored and adjusted using contraception. While the lives of many horses with EIA were lost, the remaining horses are healthy, happy, and wild.

Get the "The Real Story" sheet from your teacher

Teacher Instructions

Students should be in groups no larger than 4-6. Each group will start at the same place using the intro sheet provided in this lesson. As students make decisions they may choose different paths and thus it is important to give them the correct sheet for what they have chosen! Below you will see what your job is while students are completing the lesson. Give students the horse coloring sheets before they begin.

The Problem: All students will get the initial problem sheet. This sheet lets them know that there is an overpopulation of horses on the island. Too many horses in a habitat is bad for both the horses and the habitat. At this point students must decide whether to intervene and help the horses or not intervene.

If they Do NOT Intervene: Students will get the sheet labeled "Do Not Intervene" which will require them to play a game. This game requires that many types of food for the horses are placed around the room. IMPORTANT: Only give students 39 types of plants that the horses DO eat (Sea Oats, Smooth Cordgrass, Saltmeadow Cordgrass, and Centipede Grass) Also place other plants found on Shackleford that the horses DON'T eat. Assuming you only have 39 types of edible plants around the room, no group should be able to complete this task. They will have to intervene.

If they DO Intervene: Students will get the sheet labeled "Intervene". Students will then have to decide how they will intervene. They will choose from Removing Some of the Horses, Removing All of the Horses, Contraception, or combining Contraception and Removing Some.

Option A-Remove Some Horses: This will require students to decide how many horses to remove and then find out how their population may change for 20 years after the removal. Students will play a game with a die that will tell them how many horses are born each year. Students may need help creating the graph if this is something they haven't gone over this school year.

Option B-Remove All Horses: This is where you as a teacher play a larger role. The students must first get permission from you to remove all of the horses from Shackleford Banks. Should they choose this option they will need to plan out reasons why this is a good idea and present them to you. You will represent the public that they have to convince. You will NOT give them the ok to remove all of the horses. Your goal is to help students understand that as a park they do not want people to have a negative opinion of them. If the students were to force this issue they may make the public upset and that could create a negative outlook on the park for years to come. Use lines such as:

"These horses are part of the history of this area."
"My family grew up with the horses here."
"Isn't there another option you could try?"

Make sure that this is a conversation and not an argument!
If your students are relentless in their quest to remove all of the horses then tell them they have lost public support and must go back and choose another intervention method.

Option C-Contraception: Print out the poster of the horses standing on the island. This option requires students to play a spinoff of "pin the tail on the donkey" where they will try to pin the contraception on the pony. They must get the dart into the right section of the horse for it to be a successful attempt. In this option they must get ALL of the horses in the contraception zone in order to prove they are successful. If SOMEHOW they manage to do this (they should likely fail due to the difficulty of this option) explain to them that while they were successful in their contraception they still did not actually do anything to decrease the population immediately and are still left with the same problems for many years to come.

Option D-Combination of Remove Some and Contraception: This is the method they should end up picking. This requires them to play the die game again but not having to roll the die as many times because some of the horses have contraception so they don't have to worry about more births. They also have to play pin the contraception on the pony again but this time rather than getting ALL of the mares they only have to get half. They should be successful in maintaining an acceptable population size and if they aren't, explain that they may try one more time (or until successful!) Once they pick this option and complete it, give them the Disease paper.

Disease: Students will learn that a disease called EIA is infecting the horses. Students will have to decide whether to respond to the disease or do nothing.

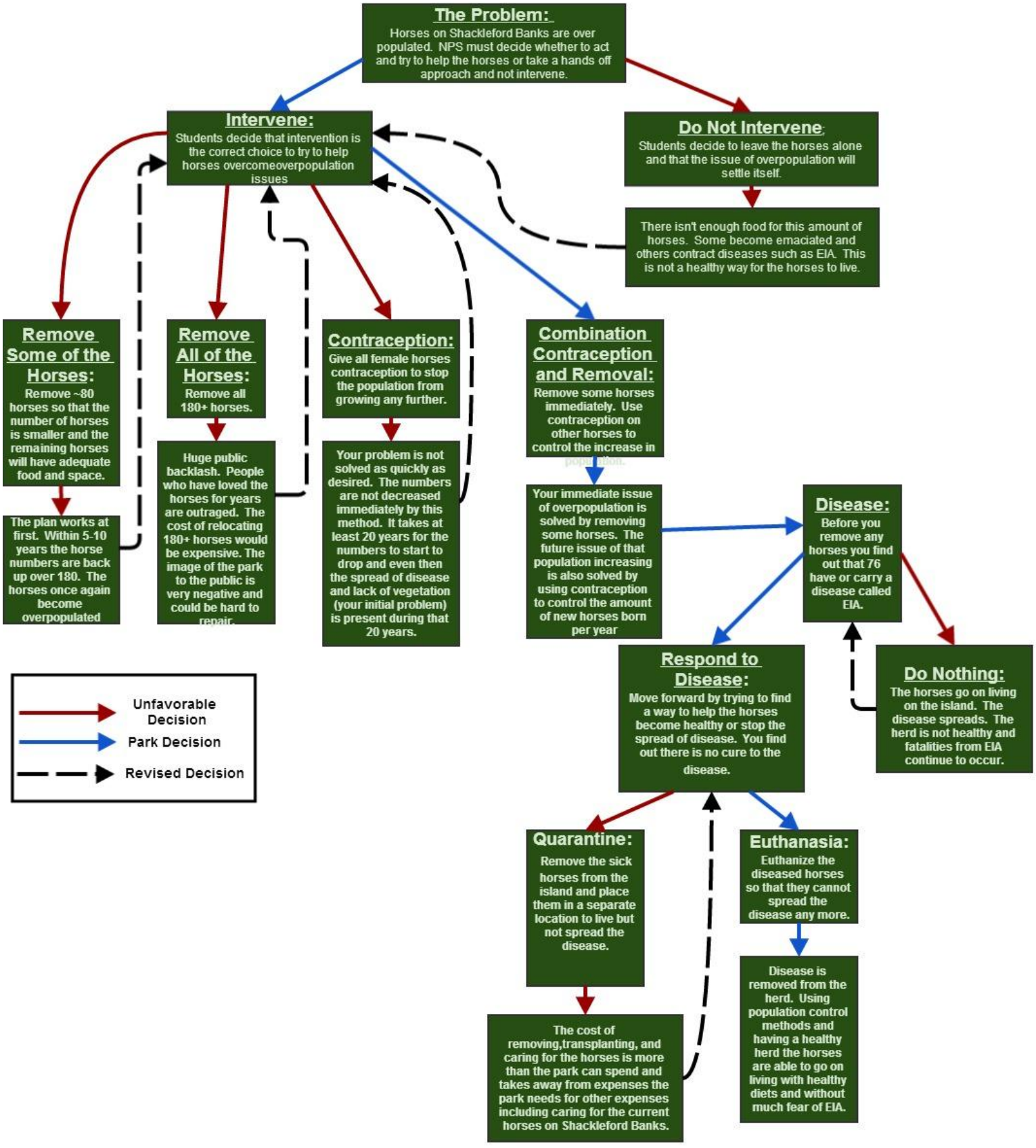
Do Nothing: Students will learn in the passage that they MUST do something as it is the parks job to manage the horses and would be irresponsible to let them fall ill.

Respond: Students will find out that they may remove the sick horses as the number of horses they were intending to remove anyway to help decrease the population. The students will then realize that EIA is incurable and must choose an option of either quarantining the diseased horses or euthanizing them.

Quarantine: Unfortunately, students will find that the option of quarantining 76 horses is impossible and could not be done by the park. They will have to choose euthanasia as their only option.

Euthanasia: Students will decide to euthanize the 76 removed and diseased horses in order to not spread EIA any further. This will create a healthy population of horses on Shackleford banks for years to come.

Once students have finished this activity you may give them the "The Real Story" paper that tells them what really happened and how these decisions actually went for the park. If students finish earlier than others there are Shackleford Banks Horses puzzles available in this document for them to do while they wait for their peers.


The Problem:
Horses on Shackleford Banks are over populated. NPS must decide whether to act and try to help the horses or take a hands off approach and not intervene.
Intervene:
Students decide that intervention is the correct choice to try to help horses overcomeoverpopulation issues
Do Not Intervene:
Students decide to leave the horses alone and that the issue of overpopulation will settle itself.
There isn't enough food for this amount of horses. Some become emaciated and others contract diseases such as EIA. This is not a healthy way for the horses to live.
Remove Some of the Horses:
Remove ~80 horses so that the number of horses is smaller and the remaining horses will have adequate food and space.
The plan works at first. Within 5-10 years the horse numbers are back up over 180. The horses once again become overpopulated
Remove All of the Horses:
Remove all 180+ horses.
Huge public backlash. People who have loved the horses for years are outraged. The cost of relocating 180+ horses would be expensive. The image of the park to the public is very negative and could be hard to repair.
Contraception:
Give all female horses contraception to stop the population from growing any further.
Your problem is not solved as quickly as desired. The numbers are not decreased immediately by this method. It takes at least 20 years for the numbers to start to drop and even then the spread of disease and lack of vegetation (your initial problem) is present during that 20 years.
Combination Contraception and Removal:
Remove some horses immediately. Use contraception on other horses to control the increase in
Your immediate issue of overpopulation is solved by removing some horses. The future issue of that population increasing is also solved by using contraception to control the amount of new horses born per year
Disease:
Before you remove any horses you find out that 76 have or carry a disease called EIA.
Respond to Disease:
Move forward by trying to find a way to help the horses become healthy or stop the spread of disease. You find out there is no cure to the disease.
Do Nothing:
The horses go on living on the island. The disease spreads. The herd is not healthy and fatalities from EIA continue to occur.
Quarantine:
Remove the sick horses from the island and place them in a separate location to live but not spread the disease.
The cost of removing,transplanting, and caring for the horses is more than the park can spend and takes away from expenses the park needs for other expenses including caring for the current horses on Shackleford Banks.
Euthanasia:
Euthanize the diseased horses so that they cannot spread the disease any more.
Disease is removed from the herd. Using population control methods and having a healthy herd the horses are able to go on living with healthy diets and without much fear of EIA.
Unfavorable Decision
Park Decision
Revised Decision

EDIBLE Horse Food for “Do Not Intervene” Activity:

Centipede Grass

Smooth Cordgrass

EDIBLE Horse Food for “Do Not Intervene”

Saltmeadow Cordgrass

Sea Oats

NON Edible plants for “Do Not Intervene”

Black Needlerush

Croton

NON Edible plants for “Do Not Intervene”

White Topped Sedge

Gaillardia

The Real Story

In 1986 Cape Lookout National Seashore removed all livestock from Shackleford banks with the exception of the horses. The horses were to stay on Shackleford banks and live wild. This was the first time in 300 years that the horses roamed free on the island without any other livestock to compete with. In less than ten years the population of the horses had doubled from about 100 horses to over 200 horses on the island.

With 200 horses on Shackleford banks there was concern that the horses would not be able to get the nutrition and space they need to survive. It was decided that some of the horses would be removed from the island in order to help the horses have a healthier life on the island. Before any horses were removed by law they must be tested for Equine Infectious Anemia (EIA), After testing, the goal was to take the horses with the disease off of the island as to protect the rest of the horses. The number of horses infected with EIA was not expected to be very high, but unfortunately the disease was carried by 76 of the Shackleford Banks horses.

When a horse contracts EIA they may get sick and eventually die, or they may just be a carrier of the disease without actually showing any symptoms. The disease will spread by biting flies that can carry wet blood from an infected horse to another horse. According to State Law there are only a few options for a horse that has been infected with the incurable EIA. A horse with EIA must either be put in quarantine for the rest of its life away from any healthy horses and never to be within a certain distance of any horses. The other option is to euthanize the horses in order to stop the disease from spreading. The Foundation for Shackleford Horses and Cape Lookout National Seashore worked together to try to find locations where the 76 horses could be quarantined and live out their lives. Unfortunately there was no such location to be found and it became clear that the only option to keep the rest of the Shackleford horses from contracting EIA was to euthanize those already infected with the disease.

Once a healthy population of about 100 horses remained on Shackleford Banks, the park had to decide how they would maintain a healthy amount of horses (100-130) on the island that would allow

the horses to survive comfortably and wouldn't disturb their wildness in the process. Roundups could be used to continuously remove horses as the population grew, but this was found to be a poor option because it would have to be done so frequently in order to maintain the expected population numbers. Contraception was also an option and would stop the mares from becoming pregnant and thus stop the population from increasing. The problem with this option is it required all mares on the island to receive the contraception which would be very time consuming and expensive, and this would not immediately solve any population problems as it does not actually decrease the population until horses start to pass away.

The park settled on a method of removal and contraception. This idea not only immediately lowers the population of the horses but also prevents the population from increasing as rapidly. Contraception would only be given to certain mares, not all, and would be based on the genetics of the horses as to preserve some of the rare genetics of the horses that can be found on the island. Currently this plan is very effective and because of this there have not had to be any roundups in nearly 10 years. The horses now live comfortably, happy, and most importantly, wild.

These are darts to be used for the contraception game. The point must hit the contraception zone!